

071606T4ABT

AUTOBODY TECHNOLOGY LEVEL 6

ENG/OS/ABT/CC/04/6/A

Perform Computer Aided Drawing

July/August 2024



TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNC CC)

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INSTRUCTIONS TO THE CANDIDATE

1. This paper consists of **TWO** Sections: **A** and **B**. Read the instructions for each section.
2. You are provided with a separate answer booklet, a computer installed with CAD software, and empty Rewritable Compact Discs (CD-RW).
3. Create a folder named **CAD-XXXXXXX** on your desktop, where **XXXXXXX** is your registration code. **SAVE ALL YOUR WORK IN THIS FOLDER.**
4. Save the folder containing your work on the CD provided and clearly indicate your name and registration code on the CD.
5. Print your work on **A4** papers and **INDICATE YOUR NAME AND REGISTRATION CODE ON EACH PAGE.**

This paper consists of SEVEN (7) printed pages.

Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.

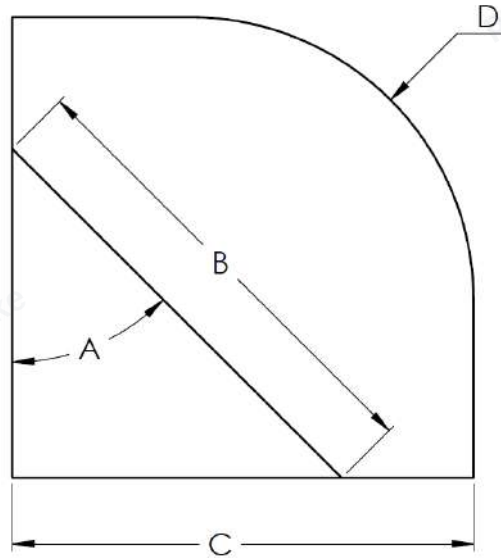
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SECTION A: (40 MARKS)

Attempt ALL questions in this section

1. Computer-Aided Drawing (CAD) software is a powerful tool for engineers and designers.
Name TWO commonly used CAD applications. (2 Marks)
2. When starting a new drawing in AutoCAD, you are prompted to choose a drawing template.
 - a) Define the term drawing template as it is used in AutoCAD. (1 Mark)
 - b) Identify TWO drawing templates found in AutoCAD. (2 Marks)
3. When saving AutoCAD drawing file, outline the meaning of a default file type. (1 Mark)
4. Differentiate between the following object modifying tools as used in AutoCAD:
 - a) Offset and array. (2 Marks)
 - b) Mirror and copy. (2 Marks)
 - c) Scale and stretch. (2 Marks)
5. The command line plays an important role in AutoCAD, state TWO of these lines. (2 Marks)
6. When dimensioning a drawing in AutoCAD, you may encounter a situation where the dimension text is too small to be seen and opens the dimension style manager to correct this.
 - a) List any FOUR settings modified by the dimension style manager. (4 Marks)
 - b) Identify what change Nina should make in the dimension style manager for the dimension text to be visible. (1 Mark)
7. When creating an assembly drawing in AutoCAD, a parts list is an essential table that must be included in the final drawing. State THREE items that should be included in the parts list. (3 Marks)
8. Figure 1 shows a figure drawn in CAD software. Identify the dimensioning commands that should be used to create dimensions A to D. (4 Marks)

Figure 1.



9. Briefly explain the process of setting the desired drawing units such as inches, millimeters, or meters in AutoCAD. (4 Marks)
10. Differentiate between the ZOOM and PAN commands as used in CAD software. (2 Marks)
11. Layers are a primary way to organize a drawing in AutoCAD. List FOUR properties that can be modified by the layer manager. (4 Marks)
12. The plot area option specifies the portion of the drawing to be plotted. Outline what will be plotted for each of the following plot area options in AutoCAD:
 - a) Display. (1 Mark)
 - b) Extents. (1 Mark)
 - c) Layout. (1 Mark)
 - d) Window. (1 Mark)

SECTION B: (60 MARKS)*Attempt any **THREE** questions in this section*

13. Using a CAD software program;

a) Create the layers shown in Table 1

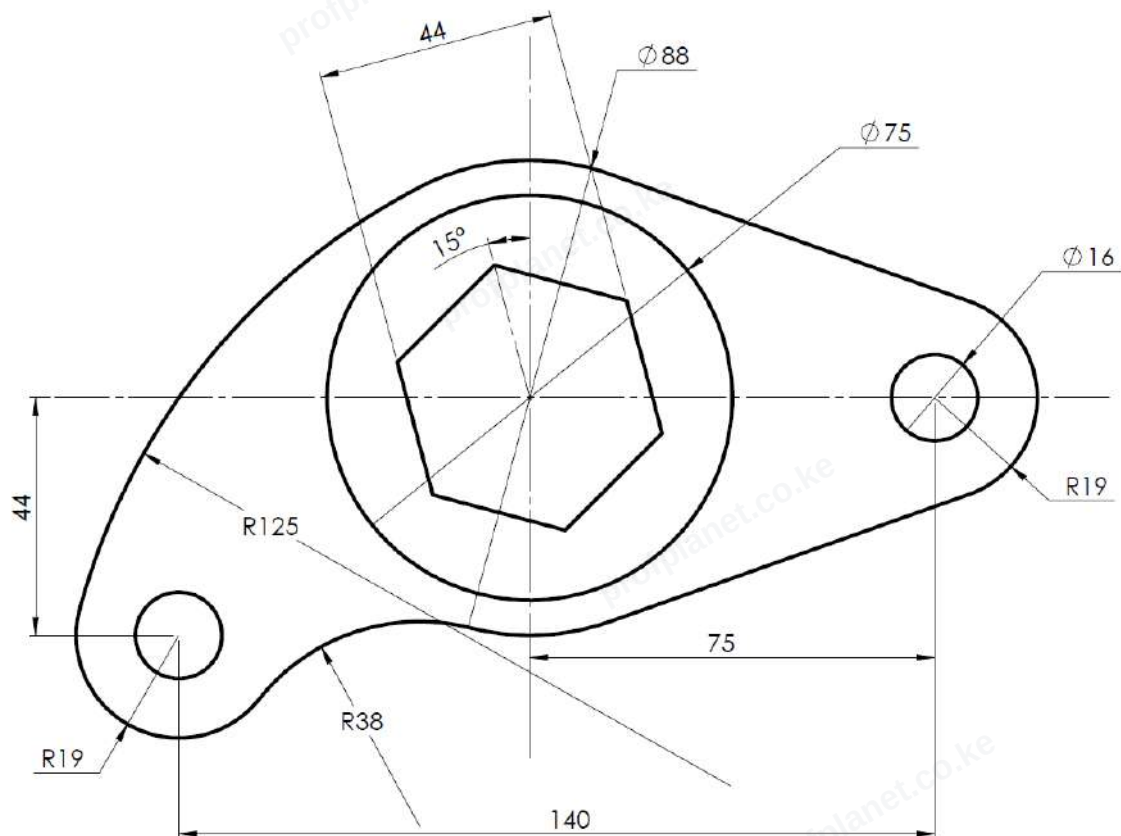
(3 Marks)

LAYER NAME	COLOUR	LINETYPE	LINEWEIGHT
Centerline	Yellow	Center	Default
Dimension Line	Magenta	Continuous	0.13
Outline	Black	Continuous	0.4

Table 1

b) Draw the profile shown in **Figure 2** using the layers created.

(17 Marks)

**Figure 2.**

14. Figure 3 shows a cylindrical block. Using a CAD software program, draw the following views in first angle orthographic projection:

- Front view in the direction of arrow A,
- End View,
- Plan.

(20 Marks)

(Include the hidden details and 6 major dimensions)

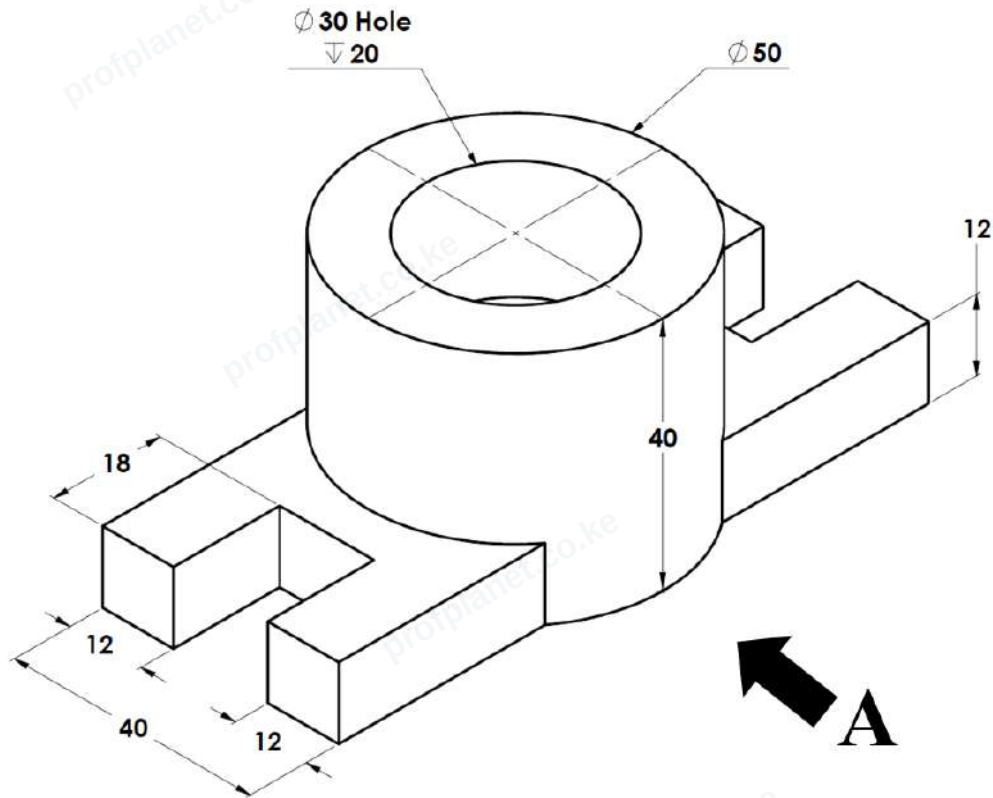


Figure 3.

15. Figure 4 shows the orthographic views of a casting. Using a CAD software, draw the isometric projection of the casting with corner P as the lowest point. (20 Marks)

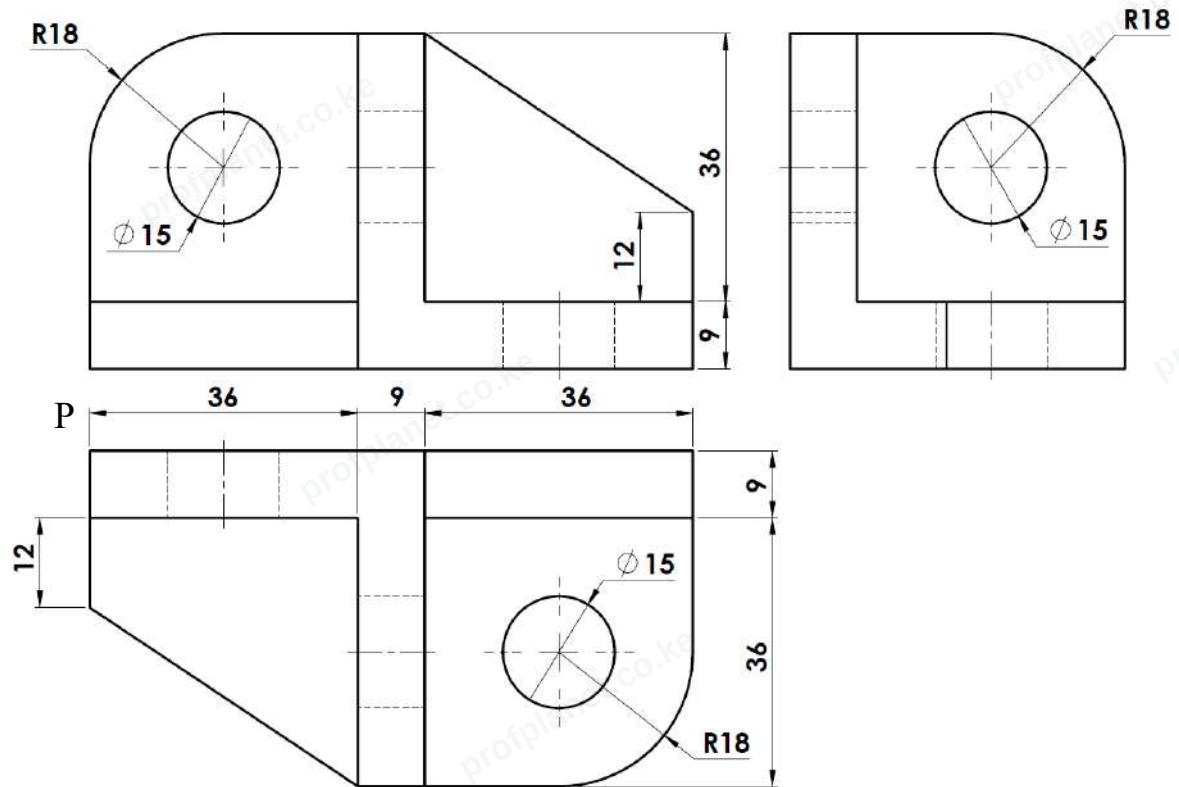


Figure 4.

16. Figure 5 shows a machine block. Using a CAD program 3D model, draw the block and use viewports to extract the following views in conceptual visual style.

- Front view in the direction of arrow B,
- End view,
- Plan.

(20 Marks)

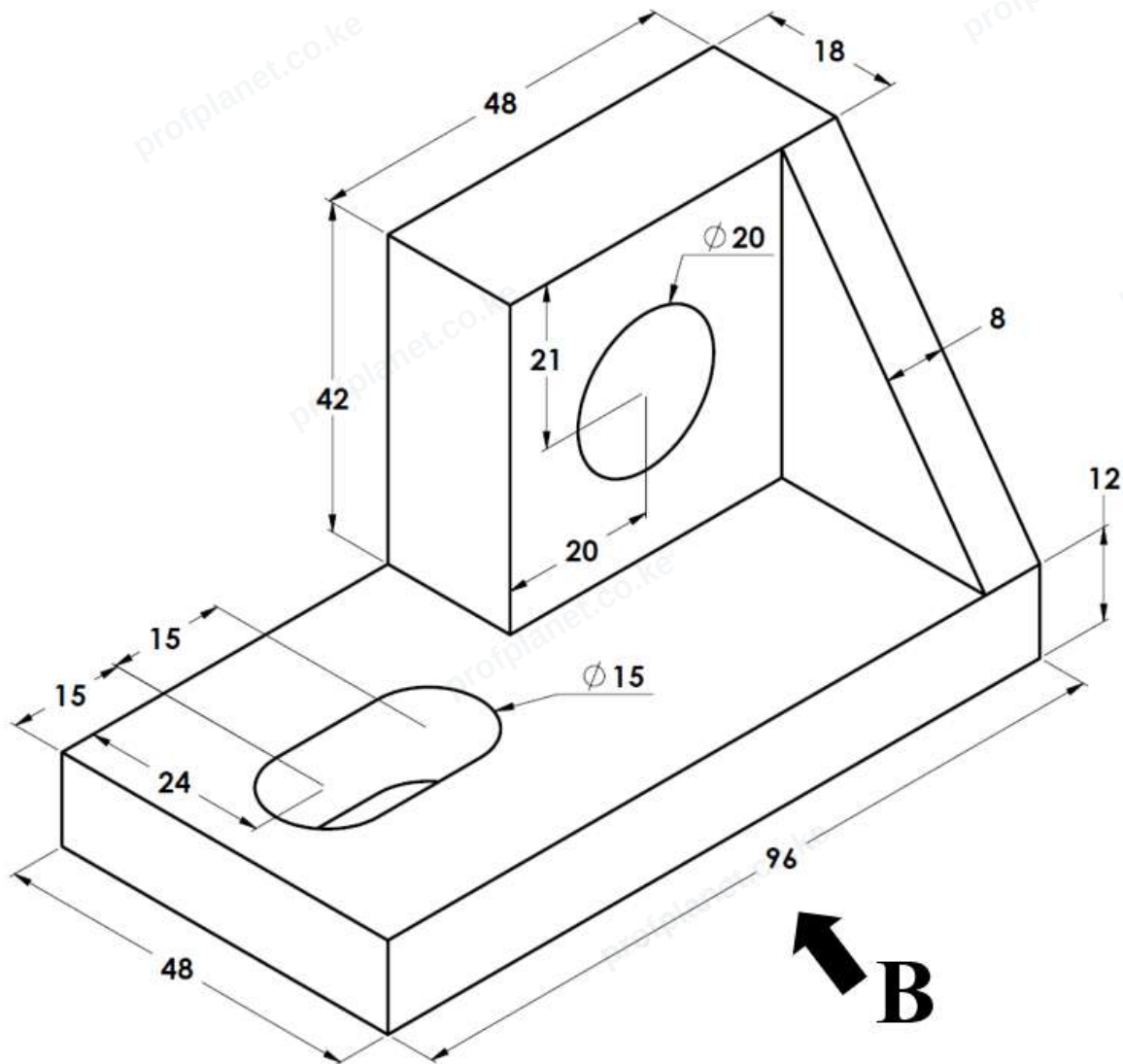


Figure 4.